ON OCKHAM'S SUPPOSITION THEORY
AND KARGER'S RULE OF INFERENCE

Offprint from:
FRANCISCAN STUDIES
Vol. 48 Annual XXVI, 1988

Published by
THE FRANCISCAN INSTITUTE
ST. BONAVENTURE UNIVERSITY
ST. BONAVENTURE, N.Y.
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I. INTRODUCTION

Since 1952, there has been a considerable amount of discussion of William of Ockham’s theory of the modes of common personal supposition (hereafter, following Elizabeth Karger, “TM”). The main interpretative question regarding TM has been the question, What is Ockham up to in presenting TM? Until fairly recently, an expanding body of literature on the subject has been closing in on one particular way of answering this question.¹ The answer that has been gaining acceptance is this: Ockham’s purpose in presenting TM is to provide a theory of quantification. The main claims of this (until recently) widely accepted interpretation of Ockham (which interpretation I will call “The Quantification Theory Interpretation of TM,” or “QTI”) are the following.

QTI: TM is meant to be a general analysis of quantified statements that provides, for each quantified statement, q, a "descent to particulars," i.e., a materially equivalent expansion to a statement, p, about individual things such that (i) p contains no general terms, and (ii) p has the same truth-conditions as q.

Thus, for example, Ockham tells us that we can descend from the quantified statement ‘Some man is an animal’ to the following statement about individual things: ‘This man is an animal, or that man is an animal, or...’. Similarly, he suggests that we can descend from the quantified statement ‘Every man is an animal’ to the conjunctive statement ‘This man is an animal and that man is an animal and...’.

There are, however, some problems facing QTI. These have been recognized and developed in the last fifteen years by several commentators. The difficulties are summarized by Gareth Matthews in roughly the following way:

1. When he discusses various descents to particulars from statements with general terms, Ockham never explicitely claims that the statements about individual things to which he descends are equivalent to the statements from which they are derived.

2. Not all of the descents Ockham offers are in fact to equivalent statements; his descents under classic O-form statements are to particular statements that are clearly weaker than the general statements from which they are derived.

3. In Part II of his Summa logicae Ockham explicitely does provide truth-conditions for general statements—i.e., he gives a theory of quantification—and he does so without reference to TM; but he never there mentions that he is repeating a job that he has already taken care of, in a different manner, in an earlier work.

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4 See also Matthews, "Suppositio."


6 See also Fredoso, and Paul Vincent Spade, “The Semantics of Terms,” from The Cambridge History of Later Medieval Philosophy, ed. Norman Kretzman,
In the last few years Marilyn McCord Adams, Matthews, and, especially, Karger have, taking up a suggestion by Calvin Normore and Alfred Freddoso, developed a rival to QTI.\(^7\) According to this new interpretation of Ockham, the purpose of TM is to provide distinctions to be used in formulating various rules governing the valid forms of immediate inference. And, indeed, Ockham does make use of TM distinctions in many places while discussing the rules governing such inferences.\(^8\)

This rival to QTI (which I will call “The Theory of Immediate Inference Interpretation of TM,” or “TII”) seems quite plausible in many respects. Its attractiveness is enhanced by the fact that, as an answer to the question, What is the purpose of TM?, it is the first serious alternative to QTI. But TII is open to one very troublesome objection: even if Ockham does appeal to TM distinction, on many occasions, when discussing rules of inference, there is no special reason for thinking that the main purpose of TM is to provide distinctions for use in formulating such rules, as TII claims; it is, after all, quite possible that Ockham simply helps himself to TM distinctions when formulating these inference rules because, as it happens, he already has the distinctions.

One way of defusing this objection would be to show that Ockham in fact has a complete, unified theory of immediate inference, and one that depends essentially on the TM distinctions for its formulation, rather than just an incomplete hodge-podge of inference rules, many of which happen to appeal to TM distinctions. For if Ockham does have such a theory, then it would be quite plausible to suppose that his main purpose in developing TM is to formulate this obviously important theory.

In her paper, “Modes of Personal Supposition: The Purpose and Usefulness of the Doctrine Within Ockham’s Logic,” Karger

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\(^7\) Matthews, “Suppositio;” Matthews, “A Note;” Adams, *William Ockham*; and Karger. Freddoso makes the suggestion on p. 27 of his essay; both Matthews and Freddoso credit Calvin Normore for originally making the suggestion in conversation.


\(^9\) See note 2, above.
offers an account of Ockham that, in effect, tries to meet the objection to TII in just this way. For it turns out that, on Karger's interpretation of Ockham, all the rules of inference that Ockham formulates using distinctions from TM can be captured in a single rule of inference. If Karger is right about this, then she has made something of a breakthrough in understanding Ockham (and, if the rule is a good one, in the logic of immediate inference as well). For Karger's single rule, according to her, successfully codifies a number of distinct rules governing valid forms of immediate inference among pairs of sentences of a certain kind. And the rule has the form of a biconditional; it constitutes an attempt to characterize all and only the valid forms of inference among pairs of the relevant kind of sentence. Thus Karger's rule (if it is a good one) can be seen as capturing a coherent and unified theory of immediate inference for pairs of sentences of the relevant kind. That Ockham has such a theory would be something of a startling discovery in itself. That the theory makes use of TM distinctions in some interestingly essential way would, in turn, amount to telling evidence in favor of the view that the purpose of TM is to provide the basis for this theory.

The main aim of this paper is to show that the interpretation of Ockham offered by Karger, according to which the objection to TII can be handily defused, is incorrect. For I think that there are serious problems with Karger's encapsulation of the relevant rules of inference into a single rule. In order to show this I will attempt, in the second section of this paper, to present and explain the salient features of both TM and Karger's rule. Then in the third section I will spell out what I take to be fatal difficulties facing both the rule and the interpretation of Ockham that is based on attributing that rule to him. If I am right about these matters then TII, like QTI, remains susceptible to serious objections.

II. KARGER'S RULE

Karger points out (on p. 1 of her paper) that the question, "What is the purpose of TM?" has been unduly neglected by Ockham's commentators.\textsuperscript{10} Her investigation reveals that the important dis-

\textsuperscript{10} Normore, Freddoso, Matthews and, as Karger points out, Spade are the exceptions to this rule.
tinctions made by Ockham in TM are used by him, in Part III of the *Summa logicae*, in characterizing various valid and invalid forms of inference.\(^1\) In particular, Ockham formulates a number of rules specifying that propositions of certain kinds can (or cannot) be inferred from propositions of certain other kinds; and in these formulations the relevant kinds of proposition are characterized (at least in part) by their respective modes of common personal supposition. So TM provides a tool (in the distinctions) that plays an important role in Ockham’s logic.

It is possible, however, that Karger makes the role of this tool too central in her interpretation of Ockham, for, as I have said, according to the way Karger reads Ockham’s rules of inference (the ones based on TM distinctions, that is), all of these rules can be captured by a single, powerful rule. In order to present this single rule of Karger’s, I shall first have to give definitions of the technical terms that Karger employs in stating the rule. Although most of these definitions have been formulated by Karger, they all conform to the Ockham uses the relevant expressions. Unless otherwise indicated, the references following these definitions are to Karger’s papers.\(^2\)

A *term* is any simple or complex expression, \(\Phi\), (or one of its grammatical variants) that can feature in a meaningful sentence of the form “hic (haec, hoc) est \(\Phi\)”, where some object is designated.

A term *signifies* all objects that, if designated, would contribute to a true sentence of the above form with that term used as a replacement for ‘\(\Phi\)’. (p. 89.)

A *common term* is any term that could signify more than one object.

That a term *supposits personally* in a sentence means, roughly, that it refers in that sentence to its significates rather than to itself or to the concept associated with it.\(^3\)

A *categorical* sentence is a one-verb sentence. (p. 90.)

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\(^{1}\) See note 8, above.

\(^{2}\) For the sake of convenience I have, in some cases, changed the wording of Karger’s definitions in non-substantial ways, so that the definitions all fit into the format I use below; I have in no case altered the content of a definition. Throughout my paper I follow both Ockham and Karger in using ‘statement’, ‘sentence’ and ‘proposition’ as synonyms.

\(^{3}\) This is based on Ockham’s account of a part of Ockham’s SL. I.
An *implicit quantifying word* is present in a sentence wherever a particular quantifying word could be introduced *scola congruitate*. In a categorical sentence, the *personally supposing terms* are all those terms over which some quantifying word—universal, particular or implicit—ranges. (p. 91.)

The *main syncategoremata* are as follows: 1) the copula, 2) the universal and particular quantifying words (including all variants), 3) the implicit quantifying word, and 4) verbal negation.

The characteristic feature of *verbal negation* is that it may be placed at the beginning of a sentence (and possibly combined with a quantifying word) or just before the verb.

To say that a sentence, S, is an *elementary categorical* is to say that a) S contains as its verb a present-tensed copula, b) S contains occurrences of one or several of the main syncategoremata, although no more than one occurrence of a verbal negation, and c) all other non-complex expressions contained in S are exclusively terms. (p. 95.)

A *quantificational sequence* is a sequence of universal and particular quantifying words that includes no negation. (p. 96.)

An *ultimate inferior* is, roughly, any term of the form “hic (haec, hoc) φη”, where the replacement for ‘Φ’ is a common term and ‘φη’ designates the nth member of the series of objects that are Φs; e.g., ‘this philosopher’ (referring to Socrates) is an ultimate inferior of ‘philosopher’. (p. 92.)

Next we come to Ockham’s crucial account of the three different modes of common personal supposition: confused and distributive, determinate, and merely confused supposition. (Karger calls these “distributive,” “determinate,” and “confused,” respectively.) Ockham tells us that

confused and distributive supposition occurs when, assuming that the relevant term has many items contained under it, it is possible in some way to descend by way of a conjunctive proposition and impossible to infer the original proposition from any of the elements in the conjunction. (Ockham, *SL* I: 201.)

Karger’s characterization of this mode of supposition is the following:

A personally supposing common term, T, has *distributive supposition* in a sentence, S, if: (1) S entails a conjunctive proposition, P, such that each conjunct of P has the form of S with an ultimate inferior of T in place of T, and each ultimate inferior of T occurs in some conjunct of P; and (2) no one conjunct of P entails S. (p. 93.)
As an example of distributive supposition, consider the subject of the sentence 'Every man is an animal' (an example offered by Ockham [Ockham, SL I: 201]). 'Man' suppositis distributively in this sentence because (1) the sentence entails the conjunctive proposition 'Man1 is an animal, and man2 is an animal,...' [and so on for every man]; and (2) no one conjunct of this conjunctive proposition entails the original proposition. That is, (switching now from Karger's terminology to Ockham's) it is possible to descend under the term 'man' by way of a conjunctive proposition ('for the following inference is good: every man is an animal; therefore this man is an animal, that man is an animal... [and so on for all the relevant particulars],') (Ockham, SL I: 201), but not possible to infer the original proposition from any one of the conjuncts ('the following inference, however, is not valid: that man is an animal [no matter which one is singled out]; therefore, every man is an animal,' [Ockham, SL I: 201]).

On determinate supposition, Ockham writes

whenever it is possible to descend to the particulars under a general term by way of a disjunctive proposition and whenever it is possible to infer such a proposition from a particular, the term in question has personal determinate supposition. (Ockham, SL I: 200.)

The following is Karger's characterization of determinate supposition:

A personally suppositing common term, T, has determinate supposition in a sentence, S, iff: (1) S is entailed by a proposition of the same form as S, but with any ultimate inferior of T in place of T; and (2) S entails a disjunctive proposition, P, such that each disjunct of P has the form of S, but with an ultimate inferior of T in place of T, and each ultimate inferior of T occurs in some disjunct of P. (p. 93.)

As an example of determinate supposition, consider the sentence 'A man is an animal' (Ockham's example from Ockham, SL I: 200). Both the subject and the predicate of this sentence have determinate supposition. 'Man' has determinate supposition in the sentence because (1) the sentence is entailed by a proposition of the same form, but with any ultimate inferior of 'man' in place of 'man' (e.g., the original sentence is entailed by the sentence 'Man1 is an animal'); and (2) the sentence entails the disjunctive proposition 'Man1 is an animal, or man2 is an animal, or...' (and so on for every man). As Ockham would say, it is possible to descend to particulars under
the term ‘man’ by way of a disjunctive proposition (“for the following is a good inference: a man is an animal; therefore, this man is an animal or that man... (and so on with all the relevant particulars),” (Ockham, *SL I*: 200), and it is also possible to infer the original proposition from any one particular (“likewise, this is a good inference: this man is an animal (where some particular man is pointed out); therefore, a man is an animal,” [Ockham, *SL I*: 200]). And because similar remarks apply with regard to the term ‘animal’ in the sentence in question, that term, too, has determinate supposition in the sentence.

Finally, on the subject of confused supposition, Ockham writes merely confused supposition occurs when a common term supposits personally and it is not possible, without a change in either extreme, to descend to particulars by way of a disjunctive proposition, but it is possible to descend by way of a proposition with a disjunctive predicate and it is possible to infer the original proposition from any particular. (Ockham, *SL I*: 201.)

Karger defines confused supposition in the following way:

A personally suppositing common term, T, has confused supposition in a sentence, S, iff: (1) S is entailed by any proposition, P, such that P has the same form as S, but with an ultimate inferior of T in place of T; (2) S entails a proposition, P, such that P has the form of S, but with a disjunctive term made up of all the ultimate inferiors of T in place of T; and (3) S does not entail a disjunctive proposition, P, such that each disjunct of P has the form of S but with an ultimate inferior of T in place of T, and each ultimate inferior of T occurs in some disjunct of P. (p. 93)

As an example of confused supposition, consider the sentence ‘Every man is an animal’ (Ockham, *SL I*: 201). The term ‘animal’ has confused supposition in this sentence because (1) the original sentence is entailed by a sentence of the same form but with any ultimate inferior of ‘animal’ in place of ‘animal’ (e.g., the original sentence is entailed by the sentence ‘Every man is animal1’); (2) the original sentence entails a proposition with the same form but with a disjunctive term made up of all the ultimate inferiors of ‘animal’ in place of ‘animal’ (i.e., the original sentence entails the proposition ‘Every man is animal1 or animal2 or...’ [and so on for every animal]); and (3) the original sentence does not entail a disjunctive proposition such that each disjunct has the form of the original sentence but with an ultimate inferior of ‘animal’ in place of ‘animal’ in such a
way that each ultimate inferior of ‘animal’ occurs in some disjunct (i.e., the original sentence does not entail the proposition ‘Every man is animal1, or every man is animal2, or...’ [and so on for every animal]).

Again, as Ockham would put the matter, it is not possible to descend to particulars under ‘animal’, in ‘Every man is an animal’, by way of a disjunctive proposition (“the following is not a good inference: every man is an animal; therefore, every man is this animal or every man is that animal or every man is... [and so on for all the relevant particulars],” [Ockham, SL I: 201]), but it is possible to descend under the term by way of a proposition with a disjunctive predicate (“for the following is a good inference: every man is an animal; therefore, every man is this animal or that animal or that... [and so on for all the relevant particulars],” [Ockham, SL I: 201]), and it is possible to infer the original sentence from any particular (“for the following inference is valid: every man is this animal [no matter which animal is pointed out]; therefore, every man is an animal,” [Ockham, SL I: 201]).

Karger introduces two additional technical terms for the purpose of stating her proposed rule of inference. First, she recognizes these two kinds of potentially suppositional difference between two sentences that are otherwise qualitatively identical: (a) the position of the verbal negation (if any) is not the same in both sentences, and (b) for one or several personally suppositing common terms, the quantificational sequences of these terms are not the same (Karger, p. 100). Secondly, she allows as a potentially suppositional modification any alteration in a sentence that produces a new sentence presenting with the first a potentially suppositional difference (Karger, p. 101).

Karger deliberately leaves open the question of whether ‘potentially suppositional modification’ is to apply to categorical sentences generally or only to elementary categoricals. She incorporates this ambiguity into her statement of her single rule of inference, which she calls “the non–reciprocal TM rule”:

Whenever a categorical (alternatively, an elementary categorical) sentence, S’, undergoes a potentially suppositional modification, yielding a sentence S’, and the mode of at least one personally suppositing term common to both S and S’ differs in both sentences, then S’ is a consequence of S iff: for any such term, the change in mode incurred from S to S’ is either: (a) from distributive to determinate or confused, or (b) from determinate to confused. (p. 101.)
III. PROBLEMS FOR KARGER’S RULE

Karger’s statement of her non-reciprocal TM rule is ambiguous between two readings of the word ‘any’. The phrase ‘for any such term’ can be taken to mean for every such term, on the one hand, or it can be taken to mean for some such term, on the other hand. Taken the first way, Karger’s rule says that the inference from a sentence, S, to an appropriately related sentence, S’, is valid if, and only if, in the case of every term that undergoes a change in mode of supposition from S to S’, that change fits one of the prescribed patterns. This reading of the rule makes the relevant condition more difficult to satisfy; the result is that, on this reading, relatively fewer inferences will qualify as valid. Taken the second way, on the other hand, Karger’s rule says that the inference from a sentence, S, to an appropriately related sentence, S’, is valid if, and only if, in the case of at least one term that undergoes a change in mode of supposition from S to S’, that change fits one of the prescribed patterns. Thus on this reading of the rule the relevant condition is easier to satisfy, and hence more inferences will qualify as valid.

I will refer to the first interpretation of the rule (reading every for ‘any’) as the weak version of the rule, and the second interpretation of the rule (reading some for ‘any’) as the strong version of the rule. There are problems facing both versions of the rule, and I will try to spell these out, beginning with the problems facing the strong version of the rule.

Below are two sentences that represent the classic I- and A-form propositions, respectively:

(I) Some man is an animal.
(A) Every man is an animal.

The word ‘man’ has determinate supposition in (I), as does the word ‘animal’. Meanwhile, the word ‘man’ has distributive supposition in (A), and the word ‘animal’ has confused supposition in (A). Given the way these terms supposit in these sentences, it follows that, according to the strong version of Karger’s rule, (A) is a consequence of (I); for the change in mode of supposition, from (I) to (A), of at least one term (‘animal’) fits one of the prescribed patterns. Clearly, however, (A) is not really a consequence of (I). That the strong version of the rule allows the inference from (I) to (A) means that there is something wrong with the strong version of the rule.
But just as the strong version of the rule allows as valid too many inferences, so the weak version of the rule does not allow as valid enough inferences. Consider the inference from (A) to (I). This inference is valid according to the strong version of the rule, because some term (namely ‘man’) changes its mode of supposition in one of the prescribed ways between (A) and (I). But not every term involved does so: ‘animal’ has confused supposition in (A) and determinate supposition in (I), and this change does not fit any of the prescribed patterns. Because the rule has the form of a biconditional, it is a consequence of the weak version of the rule that the inference from (A) to (I) is not a valid one. This seems an unacceptable result; we don’t want to stick Ockham with a rule of inference according to which a perfectly good inference comes out invalid.

But is the inference from (A) to (I) a perfectly good one? Perhaps we ought to be skeptical about the existential import of a universal sentence like (A). Perhaps we should allow that (A) can be true in virtue of the fact that there are no men, so that the very feature of the world that makes (A) true is what makes (I) false. In that case we should say that, in general, an A-form proposition does not entail the corresponding I-form proposition, and we should applaud Ockham for having a rule that captures this insight, and Karger as well, for attributing the rule to him.

I think it is clear, however, that Ockham would not be skeptical in this way, but, rather, would approve of the inference from (A) to (I). Although Ockham never (as far as I know) comes out and says that he would approve inferences of this kind, at least two pieces of evidence strongly support reading him in this way. The first such piece of evidence is that Ockham argues, in Part II of the Summa logicae, against the view that a universal like (A) can be true only in case there are three or more appellata, and he gives examples of such universals that are true even though there are only one or two appellata, but conspicuously fails to offer examples of cases in which there are no appellata, as he surely would if he thought that universals had no existential import.14

The second piece of evidence in favor of reading Ockham as attributing existential import to universal sentences is that Ockham says, also in Part II of the Summa logicae, both a) that corresponding

14 Ockham, SL II: 97–98.
A- and O-form propositions are contradictories \((SL \ II: \ 97-98)\), and b) that the truth-condition for an O-form proposition like 'Some S is not P' is either (i) there are no Ss, or (ii) there is an S that's not a P \((SL \ II: \ 92-93)\); and these two claims, taken together, entail that the truth-condition for an A-form proposition like 'Every S is P' is both (i) there is at least one S, and (ii) each S is a P.\(^{15}\)

Even supposing that Ockham meant to allow as valid inferences such as the one from \((A)\) to \((I)\), however, the example is not wholly fatal to the weak version of Karger's rule, for the rule could be modified so that such examples don't concern it. This could be done by changing the rule from a biconditional to a conditional, replacing 'iff' with 'if'. If such a change were made then the weak version of the rule would not tell us that the inference from \((A)\) to \((I)\) is invalid, because the rule would then never say of any inference that it is invalid. It would only be a rule serving to establish the validity of some, but not all, valid inferences of the relevant kind.

IV. CONCLUSION

What is the upshot of this discussion with respect to Karger's non-reciprocal TM rule of inference? I think that the counter-example involving the invalid inference from \((I)\) to \((A)\) is enough to rule out the strong version of the rule, and I take this as evidence that Karger intended the weak version of the rule.\(^{16}\)

The difficulty facing the weak version of the rule is that, according to that version, valid inferences (or at least arguably valid inferences) like the one from \((A)\) to \((I)\) come out invalid. Karger has said, in correspondence, that this is an inference to which she wants the rule to apply (i.e., she says that she considers the difference between \((A)\) and \((I)\) to be a potentially suppositional difference), and also that it is one that ought not to come out invalid according to the rule.

In the face of this difficulty I think that Karger has no recourse but to further weaken the rule, in the way suggested above, so that

\(^{15}\) Gareth Matthews pointed these passages out to me.

\(^{16}\) Karger has indicated, in correspondence, that this is in fact the case.

\(^{17}\) I am grateful to Elizabeth Karger, Daniel Kervick, Wolfgang Mann, Gareth Matthews and an anonymous referee for helpful comments on earlier drafts of this paper, and to Nancy Evans for help with Latin translations.
it has the form of a conditional rather than a biconditional. This means that the rule will be designed to capture only valid inferences, but not all valid inferences, of the relevant kind.

A large part of the attractiveness of Karger's interpretation of Ockham was that Karger could claim that "one important function which must consequently be recognized to TM is that of unifying the otherwise fragmented logic of formal immediate inferences." (Karger, p. 103). If the additionally weakened (i.e., merely conditional) version of the non-reciprocal TM rule is accepted, then this claim cannot be upheld. TM may still be thought of as an important tool that is used in a "otherwise fragmented" theory of the logic of certain forms of immediate inference, but TM can no longer be thought of as contributing to a neat, consistent and unified theory of this kind such as we would like to find in Ockham. Thus TII is still susceptible to the troublesome objection mentioned above.

If TM is meant to be neither a theory of quantification, as QTI suggests, nor a sort of preface to a theory of immediate inference, as TII claims, then the question remains: What is TM meant to be?

For my part, I cannot help feeling that it has been a mistake all along to try to fit TM into some category (or other) of philosophy of language with which we in this century are already quite familiar and, hence, comfortable. I think it is likely that, far from being either a theory of quantification or a part of a theory of inference, TM is simply an account of certain linguistic phenomena that medieval philosophers took to be primitive. Supposition in general, and TM in particular, are not to be analysed in terms of some further notions, nor is the medieval writer's interest in them to be accounted for in terms of some further project. To understand what Ockham and other medieval writers were up to in discussing these concepts, we must, like them, begin by taking the concepts in question to be real features of language (in something like the spirit with which contemporary writers view the notions of sense and reference) whose investigation is interesting in its own right.17

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